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The University of Chicago
FOUNDED BY JOHN D. ROCKEFELLER

THE CONSTITUTIVE AND REGULATIVE PRINCIPLES IN KANT

A DISSERTATION

SUBMITTED TO THE FACULTY OF THE GRADUATE SCHOOL OF ARTS
AND LITERATURE IN CANDIDACY FOR THE DEGREE
OF DOCTOR OF PHILOSOPHY

(DEPARTMENT OF PHILOSOPHY)

BY
ELIJAH JORDAN.

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CHAPTER I

INTRODUCTION

The purpose[1] of this essay is to inquire into Kant's reasons for the classification of principles as constitutive and regulative, and to find, if possible, how far and in what sense the distinction holds. The method employed will appeal to the use of the principles in experience. The inquiry will not extend beyond the limits of the application of the principles of the understanding, it being assumed that any other use of the principles as constitutive or regulative has its basis within those limits.

Kant is asking in what the certainty of knowledge consists. He assumes that knowledge, when conceived of as the whole of our recorded and present subjective experience, has somewhere a stable point with reference to which changes have significance, and from which progress takes its direction. This point is called the object, and the certainty of knowledge is established when its relation to the object is determined. All difficulties which arise in connection with the description of the knowledge process are just questions of the nature of this relation; and they may all be summed up as the problem of the definition of the object. What constitutes the difficulty in the case of any definition of the object, is the tendency, on the one hand, to put the definition in terms of our particular subjective experiences, and on the other, to have left as unaccountable a realistic remainder after the subjective definition has been made.

The first of these tendencies suggests the "construction" of the object; the second the discovery of the object indirectly and in a "regulative" way. Kant's justification of construction claims a basis in the fact of the *a priori* certainty of mathematical knowledge; and his justification of regulation in the fact of the practical certainty of empirical knowledge. At the outset he claims that "one part of this knowledge, namely, the mathematical, has always been in possession of perfect trustworthiness; and thus produces a favorable presumption with regard to other parts also, although these may be of a totally different nature."[2] It is probable that the other parts here referred to are the knowledge of morality, but the real difficulty is whether the presumption

[1] Results are summarized on the last page of the essay.

[2] A., p. 4; B., p. 8.

holds favorable with respect to perceptual experience. The purpose of this essay may be stated again as an inquiry as to how far this favorable presumption may be said to hold good.

To examine the process of construction calls for an examination of the concept of quantity, and the results obtained here will lead us to notice the nature and extent of the application of the regulative principles. When the latter have been established in their logical connections, it will be necessary to show their identity with the constitutive principles, not, however, through the complicated machinery employed by Kant, but through the simple characters of objects in experience.

Construction is in pure intuition. Many questions arise, however, in connection with pure intuition, as e.g., What is pure intuition? What does construction in pure intuition mean? Kant's answer to the first of these questions is that pure intuition is space and time, and as such, is valid as an object, and is definable as a rule of synthesis in the time relations of representations. This answer does not simplify matters, for it answers the epistemological question perhaps too hastily, in any case, abstractly. The intuitions are now referred to the real in sensation, and the question is whether the latter may be constructed quantitatively. Looked at more closely, quantity is seen to have connections with all the other categories through time.

For Kant there is a pure consciousness of quantity, or a consciousness in which no other character is involved; but of quantity in this sense there are no axioms, and hence no general certainty. Where there are axioms, *quantitas* becomes *quanta* and is schematized as number. It is the fact that *quantitas* becomes *quanta* which brings it into relation with the other categories; and if the principles involved here are constitutive, they are also regulative.

At this point Kant abandons quantity for its schema number, which again raises the question of the relation of sense and thought. Its definition involves time and the consciousness of succession as a synthesis. But succession in time with regard to objects involves phenomena in relations of space; this again involves substance and the permanent, with reference to which time is constitutive, and an act, which would decide the question in favor of construction. Time, however, constructs only possibilities, to which there are: (1) realistic objections with the argument of evolution; and (2) skeptical objections. To (1) Kant would say that evolution is merely a "predicable" of time-quantity, and does not apply. To (2) there is appeal to the transcendental concept of the possibility of experience.

Kant at this point seems to realize that as time and number, quantity ends in abstraction and does not touch objects. If quantity is to be a valid concept a content must be discovered for it, so a distinction must be made. Quantity is extensive quantity; and if the possibility of experience and hence the transcendental argument is to hold good, it must be remembered that the possibility of experience is just what makes the synthesis of the homogeneous a quantity. This synthesis as abstract quantity is empty conception and the bare possibility. To find a content for the synthesis we must appeal to the homogeneous in space. Generalized time formulas involve space; but the generalized synthesis is the object as the permanent substance, hence space and time are both necessary to quantity, that is, space is the schema of time just as time succession as number is the schema of quantity. Time as a schema applies to objects in only a computative sense, and provides for succession only. But the real phenomena demand their coexistence, so quantity must be schematized as space also. Quantity schematized as both time and space involves the permanent.

But if space as well as time is involved in construction we are carried beyond the idea of quantity as merely extensive. To construct the object of experience, quantity must be definitely limited, and as such becomes intensive quantity. For knowledge, differences of extensity are immaterial, and to make a knowledge difference extensity must be qualified. As qualified by a line of approach to the real, quantity is characterized by differences of degree. Quality has a statement in terms of *a priori* possibilities, for it must be *a priori* if there is to be formal construction. In what sense is quality *a priori?* The *a priori* in the sensuous intuition with respect to quality is the mathematical principle that it must have a degree. As such it is described as (1) a conceptual mean in a series; (2) a moment of consciousness; and (3) a subjective fact. Neither of these descriptions is consistently worked out by Kant.

A reconstruction may begin here upon the basis of results thus far reached. The principle of the possibility of experience, if the reference is to the concrete actuality of experience, is applicable only to those principles which operate only in a regulative way. The distinctions drawn so rigidly between sense and understanding and space and time must be ignored; and whatever principles were found applicable to experience after those distinctions are made, must be regarded merely as special applications of the principles which operate within experience taken as a whole and with all its connections intact. In this way the constitutive principles are analytic only, and serve to exemplify the

method of the regulative principles. They do not construct the object, but merely represent to consciousness the object as the purpose of the complex of the representations in consciousness. While we allow an independent function to the constitutive principles, our notion of the object is the crudely realistic one, and we have upon our hands the ambiguous question of representation. This question disappears as meaningless when the constitutive principles are shown to apply only to the imaged stage of a purpose, which is completed as an object when upon the method of the regulative principles it is connected at all points with experience.

The nature of the regulative principles is then to be understood from a proper estimation of these experience connections, and these connections can be corrrectly estimated only when approached from the point of view of their unity of purpose. It thus simplifies our method when we regard all experience connections as instants of causation, while all other regulative principles will come out in the account as corollaries of this one principle. It is just from this general point of view that the first result prohibits application of causality to the sequence in time only, for that sequence never reaches the consequent which we call the object. Causation regarded as merely temporal shows by its failure that some other idea is needed to complete it. This qualifying character is found to be the very connectedness of experience itself. Causation in experience is thus seen to involve more than time, in fact every general characterization of experience is involved in any concrete instance of it.

How are objects known, is the fundamental question for Kant, and his famous formulation of it as, How are synthetic judgments *a priori* possible, arises from a recognition of the fact that all judgments that are significant get their significance from a point of reference beyond the individual intent from which they start—in other words from reference to an object. That significant judgments are "objective" is true, however it may be necessary to define the object. The relation of thought to its object is the locus of all questions of validity, and therefore the proper object of all philosophical investigation. That same famous question was less formally and more intelligibly stated before the form of the *Kritik* was worked out, as is shown by the letter to Herz,[1] in which its form is, "Wie können sich Begriffe *a priori* auf Objecte beziehen?" Questions of the nature and limits of thought are unintelligible apart from considerations of the nature of the objects.

There have been various explanations of the relations which thought

[1] See Riehl, *Der philosophische Kriticismus*, Vol. I, p. 329.

bears to its object—that the object participates in the nature of the idea, that the object is represented in the idea, that the object is unreal and a miscarriage of the idea, that the relation between the two is unique and must be taken without explanation, that the object is the construction of the idea—the latter having various interpretations. For instance, the object is constructed out of a perfectly undifferentiated original matter through the process of time; or the object is made by the idea out of the original elements of the latter. All of these Kant reduces to two general doctrines,[1] namely, representation and construction, and he accepts the latter. It requires, however, the whole of the *Kritik* to explain in just what sense he holds to construction. Briefly, the object is constructed by the idea out of original forms; but the freedom of indifference is not given the active thought principle, since the latter has itself a definite constitution within which only it can operate. Thought is limited by itself; has its own bounds set for it in its own nature. Within these bounds it is free to construct its object, to say what it will mean, to determine its own direction.

Thus there are objects of the understanding and "ideals" of the reason; and if the latter are as objects problematical, it is because objects are needed when the forms of space and time do not lie in the direction in which the need becomes intention. The former are determined after the analogy of mathematics by or according to principles that are constitutive; the latter on the analogy of experience by or according to principles that are regulative.[2] It will be shown below, however, that the distinction between constitutive and regulative is not so much one of principles as one of objects; and that all principles, in that they relate to objects, are both constitutive and regulative.

A distinction might here be made between principles of thought and principles of knowledge. The former get their distinctive character as the active agencies at work in the process of thought, or, if the different faculties of mind are not differentiated so sharply, represent only the different directions or means by which thought seeks its object. The latter have value, after the object is obtained and defined, in comparing and organizing the objects of thought in the system of experience as a whole. The former are subjective, principles of mind, and are active and constitutive in determining objects.[3] The latter are objective,

[1] A., p. 92. See also the letter to Herz, February 21, 1772, Kant's *Werke*, Kirchmann's ed., Vol. VIII, pp. 402–9.

[2] A., p. 179; B., p. 221.

[3] A., pp. 126, 300, 718–19; B., pp. 356, 746–47.

principles of the determined object, and relate to those characters which allow the object to be used as a term of the comparative judgment, and to be fitted into a tentative whole of knowledge. They are more than this, however, in that when the idea of a conditional whole is justified through a comparison of objects, these principles may go on from the suggestion of the structure of the whole to the determination of the direction in which objects may be sought; that is, they find characters in the objects organized which suggest the grounds of the possibility of objects, find the conditions in general according to which the object must conform, and so determine *a priori* what may, in a given direction, be an object of thought at all.

Thus the conditions of the possibility of experience are laid in the constructive capacity of thought in experience, and this idea of the possibility of experience becomes the guide to the disposition of objects in knowledge or their arrangement in science, as well as to the actual character and constitution which the object must have if it is to be an object of thought at all. These regulative principles are thus not without influence upon the object, either as to form or content, since they indicate the direction in which construction is possible; and, besides, in the opposite direction, or after construction is determined as possible, they determine the extent to which it is valid.

The regulative principles are therefore indirectly or mediately constitutive. They are, when operative, synthetic *a priori* judgments in which the appropriation of the new is mediated by the idea of the old in experience. And they determine content, since they define the constitution of things in such a way as to be able to say that if there is to be a content at all, it must be found in this or that direction and under these or those conditions. This is no more than saying that the sense experience as the "real" in a possible experience is determined *a priori* as under the bounds of a constitution which is or may be known, and that, within these bounds, content is determined upon or selected with respect to characters of the known constitution which are then and there the object of the speculative purpose. In other words, sense is under the law imposed by the understanding, its forms are also concepts of the understanding, and its content therefore dependent upon the purpose of the understanding. And the inclusion of the forms of space and time within the system of the concepts is just what is meant by the "ideality" of space and time, or the transcendental idealism. This point is also the basis of the distinction between constitutive and regulative principles, and for the idea of a constitutive function of mind.

Constitutive principles are constitutive of objects directly; the exercise of the understanding under them gives the object in its reality, not merely in answering to their form but in producing their content. The forms represented by constitutive principles are grounds or reasons for experience, or characters of the constitution of experience—experience being assumed as having a definite constitution. These grounds are active as "causes,"[1] since no object of knowledge can be conceived except in its distinction from its ground.[2] And it makes no difference here if the "causality of the cause" is freedom, since the event distinguished as object could not occur except as it is recognized as necessarily related to something else.[3] If no object can stand alone in experience, that is, if no object is possible except as it has relations which determine it an object, these relations show its dependence upon something else as necessary (as under the conception of possible experience), and the something else must be looked upon as a cause or reason for the object.[4] The causes are in this case the forms of the understanding, and they are the grounds which determine *a priori* the possibility of there being an object. They say that if there is to be an object at all (and the first act of consciousness assumes that objects can be) that object must conform to the limits, or be within the bounds, or square with the general reasons why there can be an object. This calls attention to the fact that the determination of the object carries with it the recognition that there are certain conditions upon which the object depends, which conditions not only may be but are known, and may be known independently of the particular object as the condition of the object in general. The main question here is whether these conditions are "merely subjective" or really objective, so that our mere intention toward the object may be distinguished from the actual construction of the object—whether our dreaming can be distinguished from our thinking. For Kant, this distinction can be made with absolute confidence: some objects can be known completely, both as to form and matter, so there is knowledge of absolute certainty. This knowledge is mathematical.

Regulative principles are constitutive of the possibility of objects,

[1] A., p. 202; B., p. 247.

[2] A., p. 125.

[3] A., p. 227; B., p. 279.

[4] That the idea of construction involves the regulative principles of causation and community will be shown later (chap. iv). That is, principles of the quantitative and qualitative nature of objects are insufficient to show that objects can through their individual content be conceived as under the conditions of possible experience, or belong to a world of experience. As under the mathematical principles, when rigidly applied, the object becomes a little world in itself, and the plurality of objects the aggregate world of monads which "have no windows."

which, if actualized, would have as attributes characters corresponding to and known from the more general relations of objects in experience. These relations are imperfectly conceived because of the limitations of the understanding to the *a priori* forms of objects. If the intuitions of objects in experience were identical with the conceptual forms of those objects, as is assumed in the mathematical principles, there would be no need of regulative principles, since the ideal object would not be necessary, being realized in the actual. All principles would be constitutive if the intuition were given with the concept. But the field wherein such occurs is limited to objects of a particular kind; so that if there be principles beyond that field, they must be merely regulative, or guides for the thought toward a region where, in the absence of intuition, there may be objects known by certain necessities due to the characters of objects known actually in both intuition and conception. The ideal is of course to identify the two kinds of principles by finding that their fields of operation coincide in the idea of the unity of the world. This ideal is that of the speculative purpose, and the character of its knowledge is mathematical, where the intuition loses itself by inclusion in the conceptual. Subjectively, or on the anthropological side, the ideal would include objects of will and feeling, where quality gets its own,[1] and where the conceptual is exhibited in intuition. On the side of the grounds of such an ideal, the unity would represent the identity of the sense with the understanding in an "intuitive understanding" whose methods of operation would be principles constitutive completely and without limitation, that is, principles not only of objectivity in general, but also *of the object* in the concrete.

In our own experience, according to Kant, the mathematical is an instance of the completely valid knowledge. This knowledge may therefore be taken as the type of all knowledge upon either of two conditions. The first of these is that knowledge as such, in so far as valid, is purely a matter of quantity, and the quantitative relation an adequate statement of its law. The second is that knowledge as such, and as including the quantitative, is uniquely qualitative, and capable of formulation in other than mathematical terms. Quantity, then, is a narrow abstraction.[2]

[1] Later, this question becomes that of the possibility of the identity of extensive and intensive quantity.

[2] It will turn out that quantity is a thought term, with reference only to the use of the intellect in laying plans; while quality (instead of being merely, as for Kant, intensive quantity with reference to the synthesis in space and time) is a knowledge term, with reference to thought as objectified, or to objects in their character of fitness for becoming centers of reference in experience. Or, briefly, quality refers to the significance of objects for knowledge.

It is the purpose to show that in the development of the mathematical ideal, Kant had in mind not the quantitative character of reality, but a character that is unique and qualitative, which we may call significance for knowledge. Upon this character rest Kant's faith in the ultimate rationality or knowability of the world, his postulation of the intelligible as beyond and above the sensible, and his doctrine of the primacy of the practical reason as the faculty through which objects are known without the instrumentality of the sense.

CHAPTER II

THE IDEALITY OF TIME AND SPACE AS THE SOURCE OF THE DISTINCTION BETWEEN CONSTITUTIVE AND REGULATIVE PRINCIPLES

We have seen that the relation of the forms of time and space to the concepts of the understanding is the locus of the distinction between the constitutive and the regulative principles. It is therefore in connection with the Aesthetic that the discussion of that distinction should begin. It may seem that since time and space are called perceptions, and therefore regarded as inactive and as having no function but to await a content from sensation, there is no suggestion in the Aesthetic of any active faculty which might have constitutive force. Yet the mere fact of the separation of perception and its "given," from the faculties which are operative, is in itself significant while we are engaged in the search for the object of knowledge.

It is clear that sensation of itself does not give an object,[1] neither as a single sensation nor as a sum of sensations can it do this. For the particulars composing a sum can only be thought analytically and consecutively, and the sum as representing the particulars is only a mark which suggests their enumeration. Such a sum gives no clue to the qualitative character of the particulars, nor indeed do these characters enter into the sum. Qualities are independent of enumeration, they cannot be counted, but only the instances or times in which they occur. Or, at best only kinds of qualities can be enumerated, that is, abstracted from the concrete in the particulars. But these abstractions are no objects, since when they are found in experience they are recognized as mere instruments.

This does not mean that there may not be qualitative combinations, or syntheses; but only that so long as combination is numerical the result is no more than a symbol, or abstract representation of things, whereas to produce a new thing there must be qualification of qualities, or the fusion of qualities into a whole, which, as a whole, shows characters different from those of the elements. Besides the sense elements there are others which, instead of adding to the determinations of sense in such a way as to make the object at once intelligible, give rise to the

[1] A., p. 772; B., p. 800.

very question as to how the representations of sense can enter into the idea of the object at all. That is, the question arises out of the relation of the mathematical or space-time character of sensation to certain other representations of the objects, which have significance for consciousness, and are distinguishable from the sense characters, but yet are indubitable characters of the object. Such a supersensible character is, for Kant, objectivity itself.[1] Thus so far as the Aesthetic is concerned, no objects have as yet entered into the discussion.

If by the sum of sensations it is meant that the idea of the object is complex, and that there is a number of distinguishable characters in it, then there can be agreement; but agreement on the possibility of distinction is itself a suggestion toward a condition more promising of the concrete than mere aggregation. But the question is, What is the nature and the source of the complexity?[2] Can the complexity be resolved? and, if so, What does its resolution add to the explanations which we seek? To say that the object is complex is merely to qualify the object yet further, that is to add to the complexity, unless in the statement there is the key to the solution of the complexity in terms of the sources and conditions under which the object exists and is known. In any case, the object does not come to us through sense, and it is Kant's recognition of this fact that calls for the investigations of the Analytic. So long as the forms of space and time are forms *of* intuition, that is, so long as they are the contentless receptacles of individual qualities or groups of qualities, furnished through sense, there is no going on toward the definition of the object. And while sensibility is regarded as a distinct compartment of mind which hands over a finished product, there is not only no contribution to the solution of the question of the consciousness of objects, but that question is ruled out as not of possible solution, since the relation between the two compartments of mind is declared irrational.

Thus it is not a satisfactory solution of the question of the consciousness of objects to say that one department of mind furnishes one part, another department another. For in this case the question is merely restated as that of the unity of mind. To say that the relation of representation obtains among different departments of mind does not make our theory of knowledge non-representational. It is true that in this form the question is somewhat more compactly put, but its discussion is attended with many difficulties, among which the chief is the tendency to subjectivism. But the difficulty which arises in connection

[1] A., p. 290; B., p. 346.

[2] *Prolegomena*, Mahaffy and Bernard's trans., p. 5.

with Kant follows upon the interpretation of the notion of time and space as forms of the intuition. Interpreted passively as forms of the sensibility which by the mere accident of their form mould sense content into stereotyped shapes and mechanically drop it into the hopper of the understanding, the forms of time and space render the question of the relation of consciousness to its object inexorably insoluble. But regarded not as forms *of* sensibility alone; but as forms or schemes of the understanding *for* the sensibility, thus including the sensibility within the same circle of purposes as the other faculties, where its relation to the rest is explicable in terms of a purpose in common with the rest, the question of the unity of mind is not so hopeless. In this sense, however sensuous the application of the time and space, they are categories[1] of the understanding, and they are different in character from the other categories only in that they have a more highly specialized function.

Thus the forms cannot hold out as mere forms, as merely "ideal." They are real "for experience"; and if experience is meant here to include possible experience, little more reality could be asked for them. The forms of time and space are realities, and are principles that are operative in the determination of objects.[2] In the merest intuition, therefore, there are activities tending toward the construction of objects since there can be no intuition except as it is "pure" or related to thought. At this point of the discussion the aim is merely to show the futility of the idea of a mechanical relation between sense and thought. That the forms of space and time must be regarded as of the same sort as the categories will get consideration later. But enough has been said to show that one result of the Copernican discovery is the necessity of the assumption that with regard to objects there must be principles whose operation is constructive, and that these principles must be operative in sense.

Kant takes the apparent duality[3] of the real and subjects it to a rigid examination, and he quite appropriately begins with the objective part of the situation.[4] The most general determining characters of the object are its geometrical or space-time determinations. The object in a common-sense view seems to be constituted of them; but since the object, when known, is known within a situation which is also character-

[1] A., pp. 85, 720; B., pp. 118, 748. See also Riehl, *Der philosophische Kriticismus*, Vol. I, pp. 350 ff.; for space and time as intuitions, p. 346.

[2] A., pp. 110, 120, 156, 224; B., pp. 195, 271.

[3] Cf. Watson, *Kant and His English Critics*, p. 314.

[4] Even if it must be admitted that his starting-point is psychological.

ized as other than objective, the question occurs, To which part of the situation do the space-time determinations belong? It might be that they belong by nature to the knowing or conscious part of the situation. Kant assumes the latter and sets about proving the ideality of space and time. It is worth while to notice that space and time are "ideal" only with regard to the objective character of reality; but since the objective part of the situation is irrefragably bound up with the conscious part; and since what belongs to the conscious part as having special reference to the objective is real, then space and time are real. They belong to mind as real, i.e., actual characters of mind; and they belong to mind as "ideal," i.e., as thought-of objects. But the ideality or reality of space and time is a distinction which has significance only when the dual character of reality is under consideration, that is, real and ideal are correlative opposites only after abstract dichotomizing of the reality situation, and would not appear if that situation were left intact or were not thought apart.[1] Thus in another sense they are ideal, in that their distinction arises only upon the conscious examination of the conditions under and within which consciousness itself "occurs," or appears in its opposition to the non-conscious "given." Space and time are not, then, real characters of a supposed world independent of its being known, but are such as appear in the act of knowing the world. They are real characters of the situation which we might call the world-being-known, and if we can identify this conception with the common-sense reality from which we started, we have them established as real characters of both the objective and the subjective.

Kant has recognized this real character of space and time as a universal character of reality in his definition of the object, in which the reality of the object is made necessarily conformable to the conditions of knowing.[2] This is true even of the thing-in-itself when that specter is defined negatively, since it is then that which does not conform to the conditions of knowing, and of which we can neither assert existence nor non-existence. Now if we call the event of knowing an object an experience, and the conditions under which such an event may occur a possible experience; and if we agree with Kant that "it is possible experience alone that can impart reality to our concepts";[3] then space and time as part of these conditions are real for experience, and as such are real for the whole situation. In fact, Kant's proof of the ideality of space and time is a proof of their reality for experience, since they are

[1] A., pp. 27, 28; B., pp. 43, 44. [2] A., p. 197; B., p. 242

[3] A., p. 489; cf. also pp. 28, 156; B., pp. 517, 44, 195.

of the conditions under which alone the experience of objects is possible. And the proof does not merely leave them real for experience, as if there were a wider sphere of reality where they do not have determining force; it establishes them in their right as formative factors[1] in the activity of consciousness to determine limits for what may and what may not be experienced.

The ideality of time and space has little significance in a scheme in which the subject and object are divorced. Nothing is contributed to their explanation when they are held as applying to either alone and without reference to the other. If they are regarded as forms of the mind, "as such," they merely restate the general question of construction, since they are emptied of any instruments of approach to the matter they are supposed to limit; if they are "objective," that is, characters of a reality independent of any relation to mind, the object which they determine is by their attribution to it cut off from all communication with mind, and what is declared as possibly unknowable is put out of the sphere where explanations can be demanded. As characters of either side alone, they can only show the subject and object staring blankly at each other across a hopeless void. An independent object cannot exist in space and time, since such an object is completely undetermined; nothing at all can be said of it, not even that it occupies or is in space or time, since these are characterizations which belong only to the object as known or as knowable; and as such the object is not independent. The attribute of independence closes the argument with regard to the object.

Space and time are determinations which arise and are valid only in the situation of an object being known. They cannot belong either to the object or to the knowing alone, since alone there is no object and no knowing. Nor are they attributes of a mystical relation assumed between the object and its being known. Space and time *are* that relation, and they vanish with the disappearance of either term of the relation. The "ultimate reality" is the object-being-known, and the being known is a determination of the object by space and time. This instance of determined existence is an experience, and it is of the whole situation that space and time are "real." The ideality of space and time, then, since it is proved by isolating the ideal element, is proved *real of the whole of a real situation* when the ideal is shown to be meaningless if out of relation to the objective element. The ideality argument is thus a device for proving their reality for experience, that is, for the "ultimate reality."

[1] Cf. O'Sullivan, *Old Criticism and New Pragmatism*, p. 12.

CHAPTER III

KANT'S CONCEPTION OF QUANTITY AS A CONSTITUTIVE PRINCIPLE

There is no question, for Kant, but that objects as phenomena may be given in intuition; the important matter is "how subjective conditions of thought can have objective validity, that is, become conditions of the possibility of the knowledge of objects."[1] But when the object as given in intuition is regarded in its relations to the understanding, there arises the question of the complete sum of the conditions under which objects are adequately known, since an estimation of this relation is demanded by the idea of possible experience.[2] In so far as the idea of construction is concerned this is a quantitative relation, and its condition is, that all concepts be exhibited or constructed *in concreto* and yet *a priori* and still on a basis of pure intuition. This relation is found as fact in mathematical knowledge.[3]

If the concept of the object as constructed in pure intuition gives us an object, and if the pure intuition allows the predicate to be joined with the concept before all experience or individual perception,[4] then what is the difference between the pure intuition and the concept? We have here, as it seems, not advanced beyond the original assumption that in some cases (the mathematical) the concept of the understanding fits onto the sensuous experience by some kind of pre-established harmony. Kant's clearest statement of construction in intuition is made in the *Discipline of Pure Reason* where he discusses that question: "Philosophical knowledge is that which reason gains from *concepts;* mathematical, that which it gains from the *construction* of concepts. By constructing a concept I mean representing *a priori* the intuition corresponding to it. For the construction of a concept, therefore, a *non-empirical* intuition is required. . . . ."[5] Here the non-empirical intuition, as space and time, has the general validity of an object, since it represents the formal conditions according to which an act of thought must proceed. But these conditions as relations to an object are "nothing but the rendering necessary the connection of representations

[1] A., p. 89; B., p. 120.

[2] A., p. 88; B., p. 122.

[3] *Prolegomena*, sec. 6.

[4] *Ibid.*, sec. 7.

[5] A., p. 713; B., p. 741.

in a certain way, and subjecting them to a rule"; they receive their objective character "only because a certain order is necessary in the time relations of our representations."[1] It is clear that Kant is here making the pure intuition approach pretty near the "consciousness and its internal form time." It is an act that operates within a condition or limit, but it approaches that final act of distinction which discovers the object in general as the ground of the distinction between the possible and the impossible.[2]

It seems that it is assumed here that concepts meet objects directly, the consequences of which assumption Kant seeks to avoid by deciding that ultimately the relation of sense to thought is one of degree rather than one of kind.[3] But if knowledge is a constructive process and if thought works constitutively upon objects in knowing them, that knowledge must include and organize sense data, and that thought must be sensuous in an essential part of its nature. This Kant would always admit, since his final appeal is always to possible experience; and that possible experience is not a mere concept is shown in the statement that "all our knowledge relates, in the end, to possible intuitions, for it is by them alone that an object can be given."[4] As it is idle to talk about knowledge or consciousness except as the relation to objects is involved, so it is irrelevant to speak of thought except as it involves sensuous matter. "There is no intuition *a priori* except space and time, the mere forms of phenomena."[5] And while we remember that, for experience, the "mere" forms of space and time are as real as anything else, we see that for either mathematical or philosophical cognition (which latter results in knowledge analytically from concepts), they must be conceived in their ordinary experiential sense, and as such they relate to the object in its real character in perception, as Kant admits. "The matter of phenomena, however, by which *things* are given us in space and time, can be represented in perception only, that is, a posteriori."[6] Now if the object is to be constructed, since "only quantities can be constructed,"[7] the possibility must be considered whether there can be a

[1] A., p. 197; B., p. 242.

[2] A., p. 290; B., 346.

[3] Kant attempts to explain this relation through the use he makes of the concept of degree, when he makes degree the schema of quantity and defines it as the quantity of intensity in sensation. But since he would not allow of intensity being defined in empirical terms, the schema of degree is a purely conceptual matter, and the relation concept and sense is still untouched.

[4] A., p. 719; B., p. 747.

[5] A., p. 720; B., p. 748.

[6] A., p. 720; B., p. 748.

[7] A., p. 714; B., p. 742.

purely quantitative interpretation of quality and the data of space and time.

If construction is a matter of quantity, then an examination of the notion of quantity is required before we can proceed further. There must be some interrelation among the categories, either as a point of development or of mutual purposiveness with respect to the content to which they are supposed to apply. This interrelation is regarded by Kant as effected through the relation which each of the categories bears to time,[1] and as a mutual relationship through time it would seem a matter of development. This development, however, does not refer to the concepts as themselves forms, since a development of mere forms in time as contentless change can have no significance; but rather to the development of the degree of adequacy in the consciousness of the object, as that consciousness advances from the homogeneous in perception to generality and *Regelmaessigkeit* in the object.

For Kant there seems to be a pure form of quantity as such,[2] yet "with regard to quantity (*quantitas*) there are no axioms in the proper sense of the word."[3] That is, there can be no synthetic general propositions with regard to quantity as such, but only with regard to quantities (*quanta*). It is clear, however, that the concept of quantity is being regarded as in its relation to time, where its schema is given as number. As number, quantity relates to the internal sense, or to the form of the consciousness in general, and is quite a different thing from quantity considered in its relation to space. Construction in quantity with reference to space is a symbolical representation in the imagination of geometrical spaces, and as symbolical, may be given "ostensive" representation by its reduction to geometrical notation. It seems possible that construction of *quantitas* may be made symbolically, and through the symbols used, upon their interpretation, transition may be made to construction of *quanta*, where axioms may be formed with complete certainty. This symbolism is algebraic. "In mathematics however, we construct not only quantities (*quanta*) as in geometry, but also mere quantity (*quantitas*) as in algebra, where the quality of the object, which has to be thought according to this quantitative concept, is entirely ignored."[4]

The question is here, however, whether this symbolic construction and ostensive construction are not the same thing. That is, apart from the two notations, and considered as conscious procedure where

[1] A., p. 145; B., p. 184.
[2] A., p. 717; B., p. 745.
[3] A., p. 163; B., p. 204.
[4] A., p. 717; B., p. 745.

objects are involved, are not the geometrical and the algebraic methods the same? It is not easy to see the difference of conscious procedure in these two cases, although in the one case, as dealing with *quanta*, and thus having direct relations to objects in coexistence or succession in time, there is construction of the actual spatial objects of geometry; whereas in the other case, as dealing with *quantitas*, there is no object involved at all, since quantity as such, as having no relation to time, has no connection with those forms which provide the possibility of objects.

Thus it appears that the attempt to establish the notion of *quantitas* is itself sufficient to show that that notion has no significance out of relation to the other concepts; and when thought in relation to the other concepts, that of *quantitas* becomes *quanta*. It thus involves time and space, and, as will appear later, involves also quality with all its "moments." Quantity as a pure concept does not contribute much toward the explanation of the consciousness of objects. At least the "deduction" is not generally given credit for having accomplished its purpose of showing how the pure forms, as subjective conditions of the possibility of experience, can lead to the object in the concrete. And the "object in general" must have a stretched interpretation in which its generality vanishes before it can conform to the "objective"[1] conditions of the object in the concrete.

Kant's shift from *quantitas* to *quanta* is accomplished by the abandonment of the pure concept for its schema, so that when the concept is regarded as having direct reference to the real it appears as number.[2] Here is involved the notion of quantity as the synthesis of the homogeneous manifold, which presupposes, first, the subjective act of synthesis[3] in the successive addition of one to one; and second, the determination of real units as are given in sensation.[4] Within the conception of number there is involved the understanding with its pure thought product as act, and the sense representation as matter to be determined. "Number therefore is nothing but the unity of the synthesis of the manifold (repetition) of a homogeneous intuition in general, I myself producing the time in the apprehension of the intuition."[5]

Number must then be considered in its relations to time and space. In its relation to time as the internal sense, it is the act of comprehending the manifold of intuition under the law of their succession. It is not the image, in this sense, of a collection of objects, but rather represents

[1] A., p. 286; B., p. 342.
[2] A., p. 140; B., p. 179.
[3] A., p. 129.
[4] A., p. 168; B., p. 209.
[5] A., p. 143; B., p. 182.

the act by which a plurality of objects is regarded as a collection. "If, on the contrary, I think of a number in general, whether it be five or a hundred, this thinking is rather the representation of a method of representing in one image a certain quantity (for instance a thousand) according to a certain concept, than the image itself, which, in the case of a thousand, I could hardly take in and compare with the concept."[1] Succession belongs to the phenomena in time, but not to the law according to which these phenomena succeed one another. In the latter sense phenomena are regarded as to their relations in space, in which the order of succession may be reversed, and the phenomena considered as coexistent. But with regard to time itself as the law of the order among phenomena, it is the permanent. "Only through the permanent does *existence* in different parts of a series of time assume a *quantity* which we call *duration*. For in mere succession (succession as the rule and as abstracted from phenomena) existence always comes and goes, and never assumes the slightest quantity."[2] The time form here regarded as the internal sense, and as operative in numbering, is an aspect of the understanding, in that it serves as a faculty of rules to set limits among what may assume quantity. But for this active capacity there would never be a distinction of the homogeneous, since if there could be a consciousness at all it would be one entirely without change, and such a "consciousness" is empirically determined to be unconsciousness. So there can be no homogeneous without a homogeneous *manifold*, and no manifold without the act of synthesis determining limits within the homogeneous.

As an act of synthesis it is difficult to distinguish number from the time form itself. As the "condition of the possibility of all synthetical unity of perceptions,"[3] time is regarded as that which is *a priori* in the sensuous experience. And if we identify time as an *a priori* intuition and as a condition of experience, with the understanding as a lawgiver to nature,[4] we have as it seems a condition of the identification of the unities of apprehension and of apperception, and thus the possibility established for the construction of objects in time and space, the objects which constitute the corporeal world. This would also establish all principles in their right as constitutive principles, and decide the epistemological question in favor of construction.

There is, however, little comfort in mere possibilities. The possibility of the construction of nature might exist in the mind as a general

[1] A., p. 140; B., p. 179.
[2] A., p. 183; B., p. 226.
[3] A., p. 183; B., p. 226.
[4] A., p. 125.

rule according to which that construction must proceed if there is to be construction at all; still the question is not answered as to whether there is to be such construction. We may have to heed the realistic assertion that nature is "there" prior to any of our acts of construction, and as a condition through evolution of the existence of that possibility. But evolution as a law of development in time is a "predicable," or a derived concept arising out of the consideration of quantity in its relation to time. Evolution as a principle by no means provides for the reality of our mental constructions, but as a corollary to time it represents a particular direction in which our syntheses in time may move in distinguishing the law of succession from the act which prescribes the law to things in succession. Actual things in nature are not involved, hence evolution as a principle remains a category whose "schema" is yet to be discovered. There is, however, a means of securing reality for the constructions of our internal sense under the category of quantity, and this consists in the relation of quantity, as involving the internal time sense, to the space form.[1] But before leaving time quantity we have to consider it as extensive.

It simplifies matters much if we state at the beginning that by quantity Kant means extensive quantity. His statements about extensive quantity therefore give us our idea of what he means by quantity. His formal definition, however, is hardly characteristic of his general attitude to the matter. "I call an extensive quantity that in which the representation of the whole is rendered possible by the representation of its parts, and therefore necessarily preceded by it."[2] That is, every synthesis of the homogeneous in intuition, considered as represented to the time consciousness, is an extensive quantity; but it is not clear that the character of extensiveness distinguishes that synthesis from any other, if every phenomenon as object is known only in a synthesis. And the possibility of an object is just what makes a synthesis of the homogeneous a quantity. There would be no consciousness at all, since there would be no object, in a homogeneous given as completely undifferentiated or unlimited, because there would be here no evidence of the presence of the activity of the understanding; but if there were not present a distinguishing act, the homogeneous would appear, if at all, as the mere "given" to receptivity, which does not constitute a consciousness. This kind of given would have no quantity; there would be no object and hence no consciousness. Quantity appears here as the condition of the object, and as such condition, is also a con-

[1] A., p. 165; B., p. 206.

[2] A., p. 162; B., p. 203.

dition of consciousness itself.[1] But phenomena as *extensive* quantities, considered as syntheses in the internal time-intuition, can be known only in the bare possibility, that is, only as a limitation of the time synthesis itself. It is nothing more than the successive pulse and pause of counting where the homogeneous unities are quite unqualified or unlimited, so there is no reality for this synthesis. Evolution is valid as a principle here, if we are considering it in its philosophical aspects, but not in its objective or scientific application. When employed in the latter way, evolution as a philosophical principle is forgotten entirely, that is, as a method of pure synthesis in time, it cannot be used as an organizing principle. The application of the principle in science involves the modification of the time synthesis by the application to it of the space-intuition. But of the pure time quantity, since it is itself no object of perception, "I can only think it in the successive progress from one moment to another, thus producing in the end, by all portions of time and their addition, a definite quantity of time."[2] But a definite quantity of time, or simply time under the conception of quantity, is duration; and duration as measured time, since time cannot be perceived, can be known to the consciousness only through appeal to outer space perception.

Definite quantity of itself cannot thus in any of its aspects give axioms, since as defined, its application is restricted to particulars; and while propositions resulting from it are self-evident and synthetical, they are not general as is required of axioms. They can be therefore only numerical formulas. In these "the synthesis can take place in one way only, although afterward the *use* of these numbers becomes general."[3] The synthesis of two numbers, as affected in the one way only, results in the synthetical proposition. But when the characters are used as symbols merely, when their use becomes general, the proposition formed is either analytical or a contentless memory symbol for an established habit. But as a time synthesis the proposition is singular only. The construction in imagination is defined with reference to quantity, but the construction itself determines a particular quantity,

[1] B., p. 203: "Now the consciousness of the manifold and homogeneous in intuition, so far as by it the representation of an object is first rendered possible, is the concept of quantity (*quantum*). Therefore even the perception as a phenomenon is possible only through the same synthetical unity of the manifold of the given sensuous intuition, by which the unity of the composition of the manifold and homogeneous is conceived in the concept of *quantity;* that is, phenomena are always quantities, and *extensive quantities;* because as intuitions in space and time, they must be represented through the time synthesis through which space and time in general are determined."

[2] A., p. 163; B., p. 203. [3] A., p. 164; B., p. 205.

hence the statement of that construction cannot be an axiom. If it could be generalized in construction also, and not merely in use, the proposition would be an axiom with universal application, whereas as particular, it is only a numerical formula. As generalized in construction a quantity represents the "mere function of productive imagination,"[1] and its statement defines the conditions[2] under which an object is possible in more than one way in that it involves space as well as time.

Generalizing quantitative statements involves more than the time-quantity consciousness. The mere function of productive imagination, if it is a valid consciousness at all, must square with the empirical consciousness in other matters than time, if it becomes possible to make pure mathematics in their full precision applicable to objects of experience. The successive progress from moment to moment has a condition, which, as already remarked, is to be found in the relation of quantity to space. It is true that if the object can be defined as a rule of synthesis of the understanding, and that synthesis could be identified with the time-quantity consciousness, then mathematical propositions, even numerical formulas, would be in their full precision applicable to objects of experience, and any statement of quantity would be an *a priori* synthetic judgment. But it must be remembered that the object is decidedly too complex a representation to allow of such procedure. The object involves not only time-quantity, but also space-quantity; and it is the latter which renders the former possible to representation. That is, space is the schema of time, just as time succession as number is the schema of quantity.

By referring to space and time as schemata I mean to insist on their conceptual character. It has been shown that the concept of quantity taken in the abstract acquires significance only when regarded, as Kant insists, as a synthesis of the homogeneous. But the very idea of a synthesis, as also that of homogeneous unities, implies number as the form in which the synthesis occurs. And number, again, involves time as the form under which a plurality of unities is synthesized in the inner sense. But a synthesis in time in itself gives no guarantee of the reality of the process, since it affords no generality for judgments expressing that synthesis, which are merely numerical formulas. It thus permits the conceptual representation of phenomena in their succession only. But since the sensuous representation of phenomena provides for their synthesis in coexistence, and as parts external to each other, the category of quantity must be further schematized through the representation

[1] A., p. 164; B., p. 205. [2] A., p. 142; B., p. 182.

of space. And this is what was meant when it was said that space is the schema of the time-schematized category of quantity. Thus, after all Kant's insistence that the schema is not the image, it seems that the image of objects in space is necessary to the application of the category of quantity.

That a spatial representation is necessary to the pure time determination is evidenced in many of Kant's statements. "And exactly because this internal intuition supplies no shape, we try to make good this deficiency by means of analogies, and represent to ourselves the succession of time by a line progressing to infinity, in which the manifold constitutes a series of one dimension only; and we conclude from the properties of this line to all the properties of time, with one exception, i.e., the parts of the former are simultaneous, those of the latter successive."[1] But since succession is the *essential* property of time, such a representation in a synthesis whose parts are simultaneous does not make an analogy likely to be helpful. The analogy still leaves the distinctive character of space and time incommensurable, unless these characters can find a common ground in a deeper unity. This deeper unity is found in the permanent; for, "without something permanent therefore no relation of time is possible."[2] This assures to existence a quantity because of which it does not "come and go." But existence which does not come and go and which therefore has a quantity, has a character which makes it determinable (in thought at least) independent of time, and which forms the ground of time itself (as succession). This character is the synthesis of the object in space. "Though both are phenomena, yet the phenomena of the external sense have something permanent, which suggests a substratum of varying determinations, and consequently a synthetical concept, namely, space; while time, the only form of our internal intuition, has nothing permanent, and makes us to know the change of determinations only, but not for the determinable object."[3] Thus in so far as time quantity is concerned our constructions are of our own internal consciousness, and might very well go on independent of any reference beyond that consciousness. Such a construction, however, would be entirely without basis, since a remembered point in the process could not occur as an element in a new construction, because such a reference backward would give the memory product a *place*. That is, elements would be conceived as coexistent *and* simultaneous, and simultaneity is meaningless except as objects are conceived

[1] A., p. 33; B., p. 50.

[2] A., p. 183; B., p. 226.

[3] A., p. 381.

as external to each other. That is, two pulses of time which are felt as two, though conceived as simultaneous, are equivalent to two objects occupying different places; and when the pulsation is labelled two, that is, when there is a distinction, there is the appearance of "transcendental reflection" which assigns a "place" in time.

The sum of all these considerations is that when mere enumeration is further distinguished, the consciousness involved is more than that of time-quantity; or, when there is a limitation imposed on the time process, this limitation becomes a rule of synthesis and implies an object in space. Hence the conception of the permanent in time implies space; and even though this permanent may be defined in subjective terms as the rule of the synthesis of the homogeneous, it is as such even the limitation to the time flow, and what limits the time flow cannot be itself unless it is to be identified with the whole of consciousness as will. What limits time must be what is itself not mere time, but the result of a characterization within consciousness other than mere succession. "For the purpose of presenting to the conception of substance something permanent in intuition corresponding thereto, and thus of demonstrating the objective reality of this conception, we require an intuition (of matter) in space, because space alone is permanent, and determines things as such, while time, and with it all that is in the internal sense, is in a state of continual flow."[1]

That a spatial determination is necessary to the representation of time quantity is shown in the many instances in which Kant constructs the line in imagination. "We cannot represent time, which is not an object of external intuition, in any other way than under the image of a line, which we draw in thought, a mode of representation without which we could not cognize the unity of its dimension, and also we are necessitated to take our determinations of periods of time, or of points of time, for all our internal perceptions from the changes which we perceive in outward things. It follows that we must arrange the determinations of the internal sense, as phenomena in time, exactly in the same manner as we arrange those of the external senses in space."[2] And that this mode of representation is necessary, in Kant's view, for the idea of quantity in all of its aspects is seen from this statement: "It can easily be shown that the possibility of things as quantities, and, therefore, the objective reality of the category of quantity, can be represented only in the external intuition, and only through its medium be applied to the inner sense also."[3]

[1] B., p. 391. [2] B., p. 156. [3] B., p. 293.

CHAPTER IV

INTENSIVE QUANTITY AS A CONSTITUTIVE PRINCIPLE

In so far as quantity is regarded as the abstract synthesis of the homogeneous manifold, it may be said that there is a consciousness which can be regarded as quantity as such. In this case it is the idea of a unity within an undifferentiated mass of representations which may be either of the internal or of the external sense. No character of the representations is involved in the unity except the formal one of their fitness to be conceived as elements of the same consciousness. But this formal character is a "pure" construction, since it represents only the mode of activity in which the representations are received together. There can be no question that there is construction here, since nothing else is intended by the act which receives representations; but the question which must arise is, Just where does the object get determination? If the object is defined as the rule of the synthesis, there is no difficulty in understanding its construction by the mind; and, further the object has universal validity for the human mind, since the object is nothing else than that constitution which makes a mind a mind.

So long as quantity is the object of our constructions the question of the relations of the forms of sense to the forms of the understanding stands open, and our epistemology is representational. The object cannot be formed out of material defined by limitation from the object. Nor can any synthesis of abstractions represent the object of experience, much less construct it. Quantity must itself have a quantity or be a *quantum;* that is, it must be definitely limited, and this limitation, for experience, gives it a quality. Quantities are, for the understanding, homogeneous, and the character of the knowledge involved is not affected by the difference of the *quanta* considered; that is, the knowledge value of *quanta* by its incorporation in the body of knowledge extends that body in one direction only. But this body of knowledge thus extended is not more inclusive of the real in experience than before its extension.

So far we have considered quantity as extensive merely, and this is the meaning employed by Kant when he defines quantity as the synthesis of the homogeneous. It is a formal principle, and pertains only to such determinations of the object of experience as may be considered

external. As such it fulfils the requirements of a constitutive principle when constitution is subject to the limits imposed by the idea of possible experience. But the formulation of *a priori* possibilities, while it may construct the object of experience in one more or less unimportant aspect, still leaves that object unrecognizable as a concrete event in the experience of ordinary life. The concept which represents the law of the construction of objects of experience must include more than the mechanical aggregation of the characters most remote from what is concrete in experience; and to do so, must consider not only the abstractly homogeneous manifold as extensive quantity, but must ask what it is in the manifold that makes a manifold of the homogeneous, or that transforms the homogeneous from a congealed and dead substratum into a living manifold of interacting individuals. If quantity is to be made the principle whereby objects of experience are to be constructed, it must become limited quantity, or quantity having some definite connection with the real in experience. This connection is made, for Kant, through the only character of the real that is known *a priori*,[1] viz., intensive quantity or degree. We here are dealing with a conception much more promising than that of extensive quantity, since in speaking of degree Kant has reference to the significance of the real in experience, and not merely to the subjective mode of the mind as receptive. And while this second of the mathematical principles is defined abstractly, as if to confine it to the subjective realm where only possibilities are to be considered, yet the principle gets a concrete significance in the application that is made of it.

Extensive quantity is called a constitutive principle because through it the mind marks out *a priori* certain characters of the real, if, in the particular direction in which the mind is working at a given time, there is to be any real. It thus sets the limits under which an experience of the real is possible. But these limits may be determined, and corresponding characters of the real may be suggested, without there ever being an instance of reality present.[2]

In the same way intensive quantity, or the degree of the real in experience, has an *a priori* formulation in terms of the possibility of experience, and this formulation may be conceived as a law in advance of the experience of the reality to which the law applies, and in which it as a law is discovered. That is, degree may occupy consciousness as a law even while there is no reality present which has a degree. As such, it is the "principle which anticipates all perceptions as such."[3] It is

[1] A., p. 176; B., p. 218. [2] A., p. 199; B., p. 244. [3] A., p. 166.

here to be asked in what sense the real as the matter of sensation can be represented in the mind independent of and in advance of its particular occurrences. The question is not asked from the point of view of genetic psychology. Nor is it, for Kant, asking whether a sensation can be felt when there is no sensation; but it is rather, in his mind, a consideration of whether sensation has any characters, conceptual or other, which may have a knowledge significance in the absence of the feeling through which the sensation is known. If there be such characters, then it can be said that if there is to be sensation, or whenever there is sensation, it will conform to certain conditions as laws. If there are these laws and they can be discovered, then sensation as a consciousness can be regarded, in so far at least, as of the same nature as the conceptual elements of mind. Kant insists that there is to be found an *a priori* character of sensation.[1] This character which is known *a priori* in sensation is expressed in the mathematical principle that the real in sensation has a degree.

It is no part of the present purpose to show the various relations which the concept of quality has to the other categories in the system of Kant. That all the categories are bound together through their common schema time, has already been shown (chap. iii). Nor is it the purpose to show that the three conceptions, reality, negation, limitation, are necessary to the understanding of the reality which is present in sensation. In fact, the consideration of these forms is likely to lead to a conceptualization of sensation, and to neglect of the concrete real events in which sensation is experienced. Apart from this abstract scheme we may attempt to find from Kant's statements what he means by the intensive quality of reality, or its degree as experienced in sensation. Such a statement is found in the *Anticipations of Perception* (1st ed.). In this statement sensation involves "a continuous connection between reality in phenomena and negation"; and "fills no more than one moment"; and in a later statement,[2] "phenomena as objects of perception, contain the real of sensation, as a representation merely subjective, which gives us merely the consciousness that the subject is affected. . . ." In this description of quality as schematized by degree there are three points to which I shall give attention. First, there is the notion of degree as a conceptual mean in the series limited by zero and infinity. Second, there is the notion of the consciousness of a degree of reality as represented in a single moment. And third, the notion of degree as represented in sensation

[1] A., p. 167; B., p. 209. [2] B., p. 207.

considered as a subjective fact. I take up these points in the order named.

Degree has reference to the consciousness of reality as occupying a mean position between zero and the absolute reality as the other limit to the series. If we put it in spatial terms the zero position is empty space and the opposite limit is the absolutely filled space. But the former can never be known, since the absence of reality in an intuition is the absence of the means by which that intuition becomes a consciousness. And since to become known there must be a degree greater than zero, it follows "that no perception, and therefore no experience, is possible, that could prove, directly or indirectly, by any roundabout syllogisms, a complete absence of all reality in a phenomenon."[1] It is clear also that there is no consciousness of the absolute reality, except as an ideal of feeling, or as a pure construction of the intellect which can never become objectified as knowledge. Since knowledge disappears at either limit of the series, and since in this case nothing but abstractions remain, we are as far as possible from the real of actual felt sensation where intensive quantity is supposed to apply. As a relation between terms of a series of possible sensations, degree, as representing the rule of synthesis of the homogeneous, has a significance which can be estimated. Degree in this sense represents a unity.[2]

If degree must be regarded as a rule of synthesis there is difficulty in understanding how we can claim objective validity for our judgments of the intensity of phenomena. Defining the object as a rule of synthesis gives us no doubt the object as phenomenon, or as the result of our construction upon the basis of perception, but this does not show how the object may be given us in perception, which it is the business of intensive quantity to do. The rule of synthesis is not found in the phenomena but in the result of our conceptual activity upon sense data. And it is just the purpose in the appeal to degree to show that our *a priori* rule is identical with a character of phenomena as they stand in series. It is here that the subjective consciousness is represented as standing to the phenomena "in nature" as cause to effect, when we must look at the intensities of phenomena as present in space and time as being the result of a "synthesis of the production of the quantity of a sensation from its commencement—that is, from the pure intuition = 0 onwards, up to a certain quantity of sensation."[3] It is the rule of synthesis as active which gives our acquaintance with phenomena, and as

[1] A., p. 172; B., p. 214.

[2] A., p. 168; B., p. 210.

[3] B., p. 208.

we can look upon that rule as quantitative (intensively and without regard to the aggregate in space and time), our experience of phenomena may through their difference in degree be subjected to the mathematical statement.[1] In fact it is the conception of an intensity of a phenomenon which renders a phenomenon possible to consciousness as a synthesis in coalition; while it is a break in the synthesis, or a "repetition of a synthesis (beginning and) ending at every moment" which gives us the consciousness of an aggregate of many phenomena.[2] Thus intensive quantity gives us a "much," while extensive quantity gives a "many."

Intensive quantity as a rule of synthesis within phenomena regarded as arranged serially, involves causation, which, as we shall see in the following chapter, is not a mathematical, and therefore not a constitutive principle. In neither case is the immediate real of sensation represented in consciousness directly, but only through a conceptualized symbolism, which is clearly representational.

As a "moment," sensation is not a synthesis of parts and is without extensive quantity. It is not quite clear in what sense the "moment" is to be taken, since, if it is to be used in the sense of a temporal limit, then the consciousness of degree cannot be a synthesis; and if taken not in a temporal sense but as a synthesis, then degree becomes extensive quantity. I pass for the present the rigid either–or which represents intensive quantity and extensive quantity as entirely unrelated. I consider here the moment of sensation in its relation to both.

The moment of sensation would seem to be the consciousness of a term of a series out of relation to other terms, a cross-section, as it were, of a series at a given point. Besides the objection that such a view is impossible because terms vanish when taken apart from their relations, there is the further one that no synthesis (and for Kant therefore no consciousness) is possible, since the point of cross-section is a limit, which can never be compounded into time.[3] The moment could not therefore be a continuous quantity, since it could have no relation to time.

The moment as extensive quantity would represent a synthesis in space and time, and as such is open to all the objections which have been raised to extensive quantity, the most conclusive of which is that quantity as extensive, although it determines the object as external, does so with such a vengeance that the object is not directly related to consciousness, and that relation can only be representational. It is therefore clear that

[1] A., p. 178; B., p. 221.

[2] A., p. 170; B., p. 211.

[3] A., p. 170; B., p. 211.

in sensation intensive quantity cannot be separated from extensive quantity, without losing, in the one case, all matter of sensation and with it all reality; and in the other, without losing the formal or space-and-time character of sense, and with it the conscious determination of the object. If the matter of sense is neglected, and the synthesis directed to the forms of space and time, we have the object as mere extensive quantity. If the synthesis is directed to the matter of sense to the neglect of the form, then the object is the immediate of intensive quantity. In this case the question of the relation of consciousness to its object could not arise. But the fact that it does arise is sufficient evidence that intensive quantity and extensive quantity cannot be separated.

It is hardly worth while here to discuss sensation as a subjective fact, since a merely subjective fact offers little help in the search for an object which is not a purely formal one. Still, the purely subjective elements lead, for Kant, to the determination of the object in that they point to its synthesis by conforming to a rule. But given a number of intensities in which a rule is at work and there is a synthesis in time *and* space. This would not, therefore, correspond to the moment of sensation, but would be an extensive quantity.

Thus the notion of intensive quantity as subjective fact is found to be meaningless except as it involves the synthesis in time and space and therefore extensive quantity. Intensive quantity and extensive quantity, or quality and quantity, cannot be separated in the investigation which is to result in the description of that consciousness which accomplishes the determination of the object. Quality, as schematized by degree and represented as the law operative between infinite limits, implies causation. Quality with no limits imposed upon it cannot thus be a constitutive principle; in this case the principle constitutes too much. As the moment of sensation, quality constructs a non-quantitative world, or a world of unlimited manifoldness. It is the world of the many, where there is no hint of law or rule. It thus shows the necessity of the conception of a community of the real and of the interrelatedness of all experience. As subjective, quality neglects that aspect of experience which suggests to us the necessity of the quantitative or mathematical formulation of experience which constitutes our world of science as such.

CHAPTER V

THE REGULATIVE PRINCIPLES

It has appeared that the concept of quantity as a synthesis of the homogeneous manifold has no objective significance except as it involves substance as the permanent real. And this substance has been shown to require an interpretation in terms of the real in perceptual space. As such it is the ground of causality, and carries us at once out of the sphere of constitutive principles, if constitutive principles must be mathematical, into the sphere where principles are "merely" regulative. In the same way, intensive quantity, or quality, in that it gives us only the conception of a multitude among which different grades or degrees of the real may be distinguished, suggests the question of the principle upon which the object may be constructed within the qualitatively differentiated manifold. This principle, when found, must show its applicability through its capacity to combine these different degrees, if degree is to become intelligible. For, degree implies difference; there could be no meaning for the notion of degree as applied to a homogeneous. Hence, before there can be degrees there must be a relation established among the homogeneous, which recognizes or establishes differences. A degree is quantity *of difference*. Now this principle, if we are to appeal always to the possibility of experience, is that upon which we depend when we assert that a particular experience is possible, namely, causation. When we take the concept of the possibility of experience in its ordinary experiential sense, that is, as applying merely to the matter in hand, as, e.g., a particular problem in science, we say that a given experience is possible because observed relations demand that that experience be realized when the given conditions are fulfilled. It is possibility which is predictable upon analogical construction and is a possibility only in the sense that the given conditions are not yet fulfilled. When the conditions are fulfilled, the possibility has passed, and its place is taken by "fact."

But the possibility of experience may be expressed in terms of the sum of the conditions without reference to the result which is to follow upon their fulfilment. In this case the conditions represent factual events of the present, and we say that we see the principle involved in the present situation. Or the conditions may be conceived merely, so

that we can say that *whenever* such and such conditions are present, then such or such an event will follow. We are here thinking of results in terms of causation, and are uniting a cause with its effect. But we may regard a set of conceived conditions in the point of the relations which determine their capacity to issue in a given event. Here we have universalized a situation and we express its causal capacity in a statement which we call a principle.

A serious mistake is easily made here, however, and it can be shown, I think, that Kant falls into error on this point. When we have the conceived complex of conditions expressed in the form of a principle, we say that our principle brings about or produces a given result. It is as if we said that first here is our principle as an active agent ready to spring forth at our call and present us with a brand new event, so that after the event has taken place we can count two existences, whereas before there was but one. But, instead, what we really have is a set of conditions which, upon our change of purpose or point of view, is an event which we consider a result. What is produced is our new purpose, and there has been no addition to "nature," no new "event" has occurred. Nature has no results; an event in nature follows another event, and if it does so uniformly with respect to our interests or purposes, we designate it a result, but then only in relation to the preceding event. The only change in the situation is that what we formerly knew as a complex of conditions, we have synthesized into a unified principle expressing our purpose, and now know the same as an event we call a result.

A sequence implies an extended time or a lapse of time; so that events described under that notion are conceived as disparate, as having individual "places" in time. Under the notion of sequence we are thinking of the progress of the lapse or the passing of a given duration, and its extensity is its only character for us. But when I speak of uniformity of sequence, I have turned from the consideration of a quality of time itself to that of the nature which objects must have in order to become terms in a sequence, that is, to the qualities of objects which make them sequents. So the uniformity of sequence is independent of time, is rather a character of objects, and is singular or unitary and not numerically quantitative. There is no "production," since there is no objective justification for duality of cause and effect or activity and result. There is only a situation conceived as a whole, a "concept," which, as generalized, is a principle.

Kant's mistake here is in abandoning the "causality of the cause" as uniformity of sequence for the ancient superstition of the efficient

cause. But what we are concerned in here is to point out that uniformity of sequence when properly understood is the unitary ground which, for Kant, connects causality through substance with quantity, or that gives a causal significance to the synthesis of the homogeneous when considered in extensity. Thus substance is a conceived ground for causality, and its idea would never arise if the necessity of causality were never questioned. It means nothing more than the unity or uniformity of the causal relation.

Causality is, then, the basic principle in the doctrine of quantity. While quantity as such, or extensive quantity, is under consideration, the consciousness involved is that of the synthesis in time. The operation of the synthesis is therefore serial and linear, or of only one dimension. It is in this case that a purely temporal or arithmetical mathematics applies with its synthetic numerical formulas. But in this synthesis we are only computing or calculating experience. Our progress is rapid and satisfactory so long as we are dealing with constants in direction, so long as our serial advance does not turn upon itself or is not opposed by series of different directions. But experience is a field and not a line.[1] To carry out the figure, let two quantitative experiential series intersect. At their point of intersection there is an event which has a place in both series, and its numerically computed place is or may be different in each. At the same time this event has two determinations, or two events occupy the same time or, one event occupies two simultaneous "times." Now we have seen that simultaneity or coexistence in time is equivalent to coexistence in space; or that the complete consciousness of two objects in one time involves the spatial determination of those objects. When the object or the real is determined in the time series, the quantitative direction of the synthesis is no longer significant, since it must share its determining capacity with a complex of directions. Quantity is only one of the determinants of objects. In other words, an event determined as other than a point of time becomes a nucleus of a myriad of relations. And since direction, or the temporal flow, does not comprise the whole significance, the purport of an event may be considered as extending

[1] Kant's *Dissertation*, sec. 14, note: "Though time is of one dimension, yet the *ubiquity* of time (if I may use an expression of Newton's), by which all things sensible are *somewhere*, adds to the quantity of real things another dimension, in so far as they, as it were, hang upon one moment of time. For if you picture time as a line in infinitum, and coexistents by lines applied at right angles in any point of time, the superficies which is thus generated will represent *the Mundus Phaenomenon* both in its substance and its accidents" (Caird's trans.).

to this *or that* other term. That is, the "productive" influence of events in experience is mutual, they mutually produce and support each other, their relations are reciprocal.

It is evident, then, that the second of the constitutive principles, which has been discussed as intensive quantity, appeals to causality and its ground in the permanent substance[1] through the category of community. We have therefore to leave the idea of the construction of objects in experience, in so far as that construction is of possibilities only, and turn from the constitutive principles to the regulative principles of causality and reciprocity, which are shown to be involved in the idea of construction. After Kant's notions of causality and of reciprocity have been examined, it can be shown, I think, that the distinction between constitutive and regulative principles is merely formal, and that any principle that is really operative in experience proceeds in both a constitutive and a regulative way.

In taking up the examination of causality, I do not undertake to show its formal relation, through its "deduction," to the other concepts. That it has a relation to the temporal "inner" experience as schematized by Kant as quantity, and to "objectified" or outer experience as represented by quality (which, however, has more knowledge significance than is expressed in intensive quantity), has already been shown. It will be sufficient for our purposes to take up the idea of causality as the rule of synthesis.

It is evident that the succession of our subjective representations does not necessarily correspond to the succession of the manifold of an object. If they did so correspond, consciousness would pronounce immediately upon the object, or the object would be merely the consciousness of the subjective succession. But "the phenomenon, in contradistinction to the representations of our apprehension, can only be represented as the object different from them, if it is subject to a rule distinguishing it from every other apprehension, and necessitating a certain kind of conjunction of the manifold. That which in the phenomenon contains the condition of this necessary rule of apprehension is *the object.*"[2] Thus the succession of representations is under some sort of necessity, otherwise the play of fancy would operate upon nature as a free cause. But it is just as our fancy is free that we determine some

[1] A., p. 187; B., p. 230: "Hence a place has been assigned to this category (substance) under the title of relation, not so much because it contains itself a relation, as because it contains their condition."

[2] A., p. 191; B., p. 236.

subjective successions as having no objective reference. It is the case where there is no constraint upon the internal succession which sets the problem of objectivity. For, "our thought of the reference of knowledge to its object carries with it something of necessity; for the object is regarded as that which hinders the elements of our knowledge of it from coming upon us pell mell and at haphazard, and causes them to be determined *a priori* in certain ways. For, just in so far as our ideas are to refer to an object, they must necessarily agree with each other in reference to it, i.e., they must have that unity which constitutes the conception of an object."[1] Agreement among our ideas however, does not account for constraint upon the way in which they agree, or does not show the object as different in any way from the complex of ideas, unless we are to be satisfied in saying that the object is nothing more than the abstract representation of the relations among ideas. But such a realistic demand would call for a determination of the object as external to experience, in which case the fundamental question of the reference of thought to objects could not arise. In some sense the relations among ideas must give us the object. While we do distinguish the subjective succession from something which we call the object, yet this distinction must be accounted for through a rule which identifies the elements distinguished. Thus, "we take that which lies in our successive apprehension to be mere ideas, while we regard the phenomenon which is given to us through them as the object of these ideas, with which the conception we draw from the ideas of apprehension is required to agree: though in truth the object in question is nothing but those very ideas as a complex unity."[2]

That we have objects in our experience is due to the fact that we apprehend a succession of representations as a unity. But this succession involves breadth, as we shall see later. Our consciousness of any term in the succession is not complete in itself; rather, the consciousness of a single element is impossible if we are to have experience. Thus a given term would not be a sequent except as it is conceived as following upon another, since its place in time could not be established except in relation to another of its kind. A term cannot be "placed" with reference to time itself, since the latter cannot be perceived. Nor can the term be related to empty time, for this would involve its creation, and the creative cause is not allowed under the idea of causation as uniformity of sequence in time.[3] The unity of a complex of ideas means, then,

[1] A., p. 104.

[2] A., p. 291; B., p. 236.

[3] A., p. 206; B., p. 251.

simply that ideas are ideas only in complexes, for otherwise there is no possibility of experience. Now, for Kant, there can be no sequence of unrelated terms. This would be a consciousness of pure quantity under the sole condition of time, and as schematized as number, would be merely the computation of empty times as in counting. But times have to be filled before their enumeration has any consequence for knowledge, as was shown by the fact that Kant had to appeal to the real in space in order to make the quantity consciousness constitutive. The counting of empty times is mere fancy, a figment of the brain; an attempt to grind with the conscious mill when there is nothing in the hopper. Some sort of connection is needed.

But does the necessity of *a* relation make the relation, when found, one of necessity? If we have to answer this question affirmatively, the conception of causation as uniformity of sequence in time will have to be modified. The necessity of a relation between the *b* of the present moment and the *a* of the immediately previous, cannot be understood in terms of the *times* in which they occur, nor in terms of the inner consciousness whose form is time, but can be understood only when the objective character is added to the consciousness in terms of coexistence. The *a* and the *b*, when there is question of the reality concerned, are simultaneous, that is, they are capable of a relation which does not involve any quantity of time at all. So far as the objective aspect of the situation is concerned, the whole situation occupies a point of time, which cannot be compounded into time. The *ab* situation stands in a line at right angles to the direction of the time flow, and the time flow is significant only in that it leads to the "place" of that situation. It is, then, their simultaneity in time *and* their coexistence in space which provides the objective character for terms of a sequence. And this is what was meant when it was said above that quantity appeals through substance to causation, when there is question of the constitution of the object of knowledge. Thus, "it is impossible for anyone by mere thinking, without an example, to comprehend how, out of a given state of a thing, an opposite state of the same thing should follow; nay, he cannot attach any meaning to such an idea without a perception. And the perception required is that of the motion of a point in space, the existence of which in different places (as a consequence of opposite determinations) alone makes it possible for us to realize change to ourselves. For, in order subsequently to make even inner change intelligible to ourselves, we need to figure time, as the form of inner sense, by a line, and the inner change by the drawing of this line (motion): thus using exter-

nal perception as a means to the understanding of our own successive existence in different states. And the reason of this is, that all change presupposes in the perception of it something permanent ere it can be perceived as change, but that in inner sense no permanent perception can be found."[1]

This reference of the objective to space is not to be taken in a realistic sense. For change in space (motion), as a knowledge element, is determined, for Kant, in exactly the same way as the inner or temporal succession within the object. The significance of the spatial reference here is that, for the determination of the concrete object in experience, the whole sum of the conditions under which an experience is possible is required to be employed. That sum of conditions as involved thus far includes space, time, and causation, with the ground of the latter in the permanent. These we have examined, but it yet remains to be shown how causation must be further modified in order that it may operate as a condition of experience when the latter is regarded in its full import.

What has been established thus far, for Kant, is that if there are to be objects in experience, there must be relations of necessity[2] among those objects, and that these by their nature exercise a constraint upon the way in which representations are united in consciousness. This way of representation is a rule of synthesis, and our consciousness of this rule is our guarantee that our thought embodies the real and that we are not dreaming.

While causality is regarded in its temporal relations only, it must lead to such a view as regards experience in a linear way, or as if it were of only one dimension.[3] This empties time of any objective character and leaves our conscious constructions "subjective" in the sense that there is no "place" where those constructions should issue, and thus renders the process inconsequential. It represents just such a conception as the continuity of time, when time is regarded as "an infinite given whole." It is the homogeneous which is not yet a manifold; that is, there are no "places" with individuality sufficient to give rise to the concept of a relation, and so long as there are no differences where relations may obtain, the idea of a cause cannot arise. Here it might

[1] B., p. 292.

[2] Whether this necessity is one of fact or one of act does not matter here. Hume is answered in any case.

[3] This point is made by O'Sullivan, *Old Criticism and New Pragmatism*, p. 232, where Kant's view is called a "streak" view of causality. I point out, however, that the deficiency of causality is made good by regarding reciprocity as merely a part of that conception.

be said that time is ideal in the sense that it is a ground of conceived differences, and it would have significance in that by it the homogeneity is broken up into perceptual atoms, thus providing a reason for the question of the structure of experience. But such abstractions must be left behind if we are to give to causality any experiential signification. More than time, whether ideal or real, must be involved before there is approach to the concrete object, and we may attempt to point out some relations which are non-temporal but which are yet instrumental through causality in determining the object. These relations may be found as characters involved in causality itself. And as causality is regarded as a regulative principle, that is, as operative *within* experience rather than *upon* experience, it will be necessary to find the characters of causality as attributes of experience itself.

If we follow Kant in "drawing a line" to represent our conscious values, we may carry further our figure of the "field" or the "sphere" of experience. It may be true that the ultimate limit to which we can carry analysis is the pure time sequence which we conceive of as of only one dimension. But our limit is in this case ultra-experiential and therefore an abstraction. It may be an element of the instrumental devices of our thinking, but the very question of the nature of knowledge shows that it is not necessarily on that account an element of experience before the latter is emasculated by abstraction. The one-dimensional element is of significance only in establishing a locus, but even to do this there is required either previously established loci or a pluralizing of the line. If there are loci already established, our element is no longer elemental, since its character is determined by those of the elements with reference to which it was determined, and if the line is pluralized, there are relations involved which are not merely linear or temporal. The case where *b* follows *a* is not so simple as it seems, and so far as our concern is with the consciousness of the object, we can say that our consciousness is of either *a* or *b* alone. This, of course, assumes that *a* and *b* are not the simple elements that our symbolism takes them to be. As centers in experience, they have individually all the quantitative and qualitative characters that belong to the events between which causation is supposed to apply. That is, within each of them, as a whole in experience, causation is already operative; and this is true even in Kant's sense, as is shown when each of them is supposed to represent an event in possible experience. They are possible experiences, otherwise we should not be concerned with them; and, as such, causation is already assumed. The question of how or why *b* follows *a* is then to be answered through

an appreciation of the characters which belong to each. And in their examination *a* and *b* turn out to be complex events, and the "necessity" of the fact that they cannot be separated cannot be established as merely the accident that *b* follows *a* temporally.[1] That *b* does follow *a* in time may be due to the "necessity" that as knowledge-values the one is incomplete without the other. Besides, there are relations which all agree are causal and in which the temporal relation applies only figuratively, or in a sense that denies the essential character of time, namely, its succession, or rather the succession in time. Such a relation is that of water to its containing vessel, or that of the ball which rests on a soft cushion. And this relation, as causal, is not explained by saying that cause and effect are contemporaneous, or that the cause continues after the effect has begun, if cause is a matter of temporal sequence. Sequence in such a case ceases to be temporal or progressive, and takes its significance (if it have any) from the conceived material or substantial ground involved in a physical law. And here we have left the temporal sequence aside, and are appealing to the conditions of its "ostensive" representation in a relation of space. The causal notion as time sequence has in this case quite slipped our mind, and we find ourselves attempting merely to furnish for that sequence an expression in spatial coexistence. The "necessity" of the causal relation is in this case merely the fact that substance or matter as the coexistent in space is necessary to give an objective character to our inner representation of time. Thus in appealing to the temporal sequence we show that our interest is not merely to describe relations of causation as experience shows them to us but that we are looking for a ground or a reason for causation which might be found by pulling experience apart. Ultimately, we are justified in seeking a ground of causation; but this ground, when found, shows only the necessity of causality as a relation, or that causation as a law is necessary to consecutive thinking; it shows that a law of necessity is necessary to thought; but it does not show *in what* the necessity of the relation as an internal character consists, that is, does not express in experiential or objective terms the connections which are due to causation. The elements which constitute the necessity of causation are the familiar characters of objects in experience conceived as "compossible," or as the unity of a complex whole.

The law of causation is a law of thought. It means that if there is

[1] The causal relation as time sequence is, perhaps, properly taken care of by the psychological law of Association, if psychology "has only to do with the natural history of subjective processes as they occur in time."—Stout, *Manual of Psychology*, p. 6.

to be experience at all there must be a consecutiveness in the occurrence in thought of those elements which are to make that thinking possible of objectification in experience. This consecutiveness is neither temporal nor quantitative, if our criticism of the time-consciousness has not failed. As temporal or quantitative, it fails of objectification; for, as such, nature is neither sequential nor consequential. Nature is; experience has a definite constitution; what it may be in itself or for itself does not concern us. But the object of that thought in which causation holds as a tie necessary under the conception of the possibility of experience is of concern to us, and we may by simple description find the characters of that object which constitutes the necessity of causation. Thus, even though causation must be regarded as a conceptual necessity, the elements which constitute that necessity are the familiar characters of objects in experience. And although the necessity is conceptual, its objectification is "factual."

While *b* follows *a* only in a temporal sense, and as independent of other terms than those of the series to which *a* and *b* belong, nothing further can be said. And the fact that no connection can be made between this series and other serial complexes is sufficient evidence that the temporal series is not what we ordinarily mean by causation. There can be no necessity in what is not possible of connection, even if the connection be only ideal, with other experiences of its kind. And for knowledge purposes, connections of causation are all of the same kind. Indeed, necessity could mean nothing, if there were cases where it were not necessary. This leads us to the conception of the object, if it is the object of knowledge we are seeking, as the center of an infinite number of relations. The infinite is not used here in the absolutist sense, but in the sense of an attribute of the possibility of experience. The object is that which will connect harmoniously with the complex of my interests and purposes from *any* point I may wish to approach it. And the number of ways of approach to the object is limited by the possibility of experience only. If I approach the object from the direction of the purpose of my thought, where I mean it as that which will satisfy my instinct to know, the object is an object of my thought. If I approach it as that which will convert my intention into action, it is an object of my will. But in any case it is a center of all the various relations involved in the process of my defining my purpose to myself, and thus represents that which holds my experience together when an advance is attempted on a basis of that experience. If my experience is to remain intact, at this point there must be an object. Hence, *b* and

b only, follows *a* here, because, if it did not, *a* with the whole complex of temporal series which intersect in this point to make it *a*, and which we call an experience, would fall asunder and become unreal. But the unreality of *a* would involve the denial of our thought purpose as the summation of our whole experience; hence *b* must follow *a* not only because our purpose demands an object, but also because our experience vanishes if this sequence is not realized. In a sense it is the possibility of experience which gives the law to the experience that is actual. So the necessity of causality is the expression of our instinct toward the self-preservation of our thinking.

The necessity of causality seems thus to demand a general statement as a law of the constitution of experience, and we are inevitably led to that general law from the realization of the full import of any particular case of sequence. It must be borne in mind, however, that the "deduction" of necessity must proceed from the inquiry into the nature of the object which is possible in experience, and not from the analysis of the abstract concept of that possibility. The full appreciation of the concrete object-content involves the notion of the possibility of experience as well as that of necessary cause. This object, as we have seen, is the center of an indefinite number of relations; *a* is not merely *a*, but *a*, *a'*, *a''*, ... *b*. But each of the terms is a center of an indefinite number of such series, thus giving breadth to the objective situation. An instance of causality is not a case in which a particular event follows another particular event; there are no particular events; except we say that the particular is representative of the whole complex of experience, and then we incur all the dangers involved in symbolism. An instance of causality must be conceived as nature = *b* following nature = *a*. The abstract *a* must be replaced in the concrete nucleus of relations from which abstraction withdrew it. And the particulars of time sequence are merely the symbols in which we represent the whole of nature as it appears to us in our unreflective moments. The sequence of cause and effect cannot, as we have seen, be represented satisfactorily in the serial expression of time lapse, and what has been said about the time consciousness involving the space consciousness was said with the purpose to show the pure time lapse an abstraction, and therefore not a valid conception under the possibility of experience. The same considerations which compelled the attempt at the synthesis of the time form with the space form in order that we might have a concept for objectivity, now compel us to add to the space-time category the idea of causality. But the space-time-causality category, when employed in the operation

of the synthesis of experience, requires also the notion of substance as an objective ground, and when considered with respect to the possibility of experience, this ground is generalized in the notion of reciprocity.

In taking up the notion of reciprocity little more need be said than was said in showing how the notion is involved in that of causality. It can be "deduced from the idea" of causality when the latter concept is shown from the examination of the concrete object to be necessary to the concept of an object at all. The principle of community is better stated in the second edition of the *Kritik*. In the first there seems to be an attempt to state the principle in such a way as not to involve causality. As such, it might be a "fact" about a realistic world which stands statically in space alone. But it is probable that the period between the appearance of the first and of the second editions was represented in Kant's mind by an attempt to connect more closely some of the things he had put asunder.[1] At any rate, the statement of the second edition shows the influence of the progressiveness of the time idea together with that of the coexistential character of the space idea.

Starting, as Kant always does, with the inner experience, there is the fact of the time sequence. What purport to be objects are passing in endless line and in the same direction. This is, however, a subjective dream, and he is aroused from it by the possibility of the reversal of the direction of the progress, since, as temporal, that progress gives us only one thing in one time to doomsday. As temporal only, our consciousness would be as a mirror before which the spokes of a revolving wheel would appear one after the other eternally. But the rude fact that things do appear in other than the one-at-a-time way is evidence that things are determined in other ways than that of the time sense form. "Hence," as Kant puts it in the *Proof of the Third Analogy* (2d ed.), "we require a concept of understanding of the reciprocal sequence of determinations of things existing at the same time, but outside each other, in order to be able to say, that the reciprocal sequence of the perceptions is founded in the object, and thus to represent their coexistence as objective. The relation of substances, however, of which the first has determinations the ground of which is contained in the other, is the relation of influence, and if, conversely also, the first contains the ground of determinations in the latter, the relation is that of community or reciprocity. Hence the coexistence of substances in space cannot

[1] Kant's reference of the time consciousness to the space consciousness for exemplification is dated by Caird within the period between the appearance of the two editions of the *Kritik*. See *Critical Philosophy of Kant*, Vol. I, p. 500.

be known in experience otherwise than under the supposition of reciprocal action: and this is therefore the condition also of the possibility of things themselves as objects of experience"[1]

Under the idea of reciprocal action, we have to think of experience as the limit within which all our purposes tend, and in which these various purposes are mutually determined in their common purpose to construct the object. The object is then the "whole of experience" in the sense that it is the sole product of experience, and that it represents the dynamical tie which holds experience together in such a way that we are able to proceed upon it as a basis for the production of new objects. Objects are thus wholes of dynamical relations, and their wholeness is their reference to possible experience. Thus there is no need for the "infinite given whole" of sense; in fact, possible experience does not permit such a concept. Wholes are wholes with reference to the possibility of experience only. Experience is itself, as the final assumption, the only "infinite given whole."

But an object is such for me and a significant fact for my experience, and is determined so by my experience, because it as such stands or acts as related to what are for me other objects. Now the criterion for its objectivity is to be found in the fact that it is related to other objects, that is, in the fact that in my purposes to determine other objects it appears as a guide to those objects. It is not that I think this object, but the fact that by it I think other objects; it is a means whereby my present communicates with what is to be my present, to put it in temporal terms. My present thus takes its place in the "society" of objects. If the present occupies me to the full extent or reach of the relations which make up possible experience for me, then I say that I know the object as an end, since my purpose to know is fully satisfied. But this is probably emotional realization, where the distinction of objects no longer obtains, and where our theory of knowledge has no business to intrude.

But the moments of my private thinking comprise only a very small portion of experience. The moments are rare when we "sit down to reflect," as Berkeley says. Consequently the greater portion of the objective world is not determined for us in the "metaphysical" society. The point is here, however, that the possibility of my thinking not in a merely temporal or sequential way, but in a way that involves objects and is therefore consequential, depends upon the fact that the fabric of experience is continuous through the characters that are common to

[1] B., p. 257.

objects. In other words the possibility of experience is a social concept.[1] But the fact that characters are common to objects does not imply that objects or relations are necessarily all of a kind; characters as binding relations are not necessarily similarities. Difference is a tie that binds; and let the difference be as great as may be, the fact that I assert it as existing or subsisting between objects makes these objects of a piece with the rest of experience. The question is here not of the kind or degree of relationship, but rather of the necessity or the fact of relationship. And, as we have seen, the necessity of a relationship makes a relationship of necessity. And the possibility of experience provides the necessity for a relationship throughout the extent of experience. Necessity is then an object, since it is matter of fact.

The object of thought as such has been developed, and although the discussion of it seems abstract and general enough, that development was undertaken merely to show that our reflective thinking is objective, or constitutes objects after the pattern of possible experience. The situations developed are theoretical and the objects concerned are of a definite kind. But the same development may be followed from the opposite direction and the objects involved shown to be of the same kind. That is, the objects reached through a consideration of our theoretical purposes are the same as those reached through the consideration of our practical purposes, and the way is perhaps the more direct in the latter case.

Appealing once more to the possibility of experience, it must, it seems, be said that the theoretical construction of objects in experience is dependent genetically upon the practical construction or assumption of objects. Unreflective activity, such as we saw in the case of the time quantity consciousness, proceeds without defining objects explicitly, and the possibility of their being theoretically defined lines in the suggestions which reflection gathers from that procedure. These suggestions consist of the organized methods of action and characteristic modes of reaction which are imbedded in the individual and the social life. As such they are "material" conditions of the possibility of experience. What the present means to me when I have not sat down to reflect is what is contained in my previous life (either as an individual or as a representative of humanity at large) in the shape of what such moments have meant. That is, its meaning is the form I can give it when I interpret it in terms of remembered similar moments together with the moments which have succeeded the latter as their issue. What will be

[1] That is, a concept of reciprocity; "social" in a metaphysical sense.

possible for me in this moment is defined in axiomatic fashion in terms of what has been actual for me in other moments, and this actuality points the way for me in so far as the present moment is not unique or strange.

Reflection as the conscious determination of objects is called for when the relations between what appears and what is known is merely suggested or pointed to by what has become axiomatic in experience. We thus are able often to "see" a relation before we are able to state it, or to communicate it as a new addition to our present stock. The principles of our familiar possessions are regulative here, and we are able to state that at this point there must be an object, although it as yet exists only in the form of its general conditions. Its place in time has merely been determined. But established methods of procedure so converge upon this point that all that is required to "fill" the point is carefully to follow the directions indicated by our principles. Thus we discover the necessity of a relation which turns out to be a relation of necessity; and defining the point as the intersection of our principles is defining it an object of knowledge, and filling it with reality. The necessity of the object is causation when we have connected it with its kind "in nature," and when we have forgotten the ideal elements of purpose which discovered it.

It is, however, true that not all points indicated by our established methods of procedure are realized or established in their necessity. The object is not always forthcoming. And for this there are various reasons. It may be merely that we do not follow out sufficiently far the suggestions given. In this case there remains an open problem; yet we can assert with some confidence that the real is to be discovered when the problem becomes insistent enough to absorb our efforts to the fullest. The object is a problematical one, yet it may be used if we will remember that it hangs under the shadow of doubt. Or, its doubtfulness may be turned to account in the search for its necessity, in which the doubt vanishes at the successful issue of the search.

Again, the object may not be located because of doubt which hangs over some of the principles which indicate its place. Not all that is organized within our experience is understood so well that we may depend upon it absolutely. It may be that nothing is so well "known." Such objects are the hypothetical ones which we say we have some reason to believe are related by necessity to our experience, but which have not been established in that necessity. Necessity here is an idealized contingency, the "as if" of morality and religion. Such are also the ideals

of the reason. They are doubly questionable, in that their place as assigned by reflection is assigned only in general terms; and also in that the principles upon which the assignment is made are themselves of problematical character.

Such hypothetical objects are merely based upon experience, and the basic reference is so remote that the principles used in their case as well as the objects themselves are only conjectural. They require to be mentioned only by way of illustrating the method by which and the extent to which the regulative use of the principles may be carried in a speculative way. They show the tendency to abstraction which results when it is attempted to express the fulness of the concrete. They go beyond experience in the search of the necessity which is to provide an organic character for it, and the result is the hypostastis of a factual necessity into one of hypothetically absolute character. This external necessity is clearly self-contradictory. The necessity in experience is nothing more nor less than the conceived body of relations which are to be found organizing experience at any moment.

Thus are the regulative principles constructive of objects in experience, and their construction extends further than to possible objects. Kant's separation of the two kinds of principles was perhaps due to his failure to grasp the full significance of his own concept of the possibility of experience. Neither constitutive nor regulative principles are constructive of *experience*, but both are constructive of *the object* in experience. Experience is the "infinite given whole," and construction has reference not to its extent nor its content, but to the intent of that of which we are at a given moment conscious.

CHAPTER VI

CONCLUSION

I shall attempt briefly to bring together the various lines of the argument developed by Kant upon the question of the consciousness of objects, in so far as that consciousness is determined by the constitutive and the regulative principles, and shall then follow this résumé with a statement of what I think are the natural and necessary implications of his argument.

The first result of reflection is the fact that knowledge is of objects. Are the objects, in any case and in any sense, the results of reflection, or do they merely appear in reflection? And if they result as constructions from thought either as reflective or as unreflective, in what sense is reflection to be taken? Taking up the matter of construction, Kant seems to find that objects are constructed finally and without doubt or question, but that these objects represent only a comparatively small part of what we ordinarily regard as objects. Objects which are constructed are mathematical, or are objects of quantity. But when constructed, it is evident that these objects are not such as occur or appear in experience when our purpose is not definitely to construct them as objects. And objects which are not directly our purpose do appear. It is evident, then, that the possibility of the definition of the object depends in some way upon the structure of experience and the conditions of connection and permanence in it. Whatever the object is, it is of the same sort as the setting within which the notion of the object arises. Under this new conception of it, the question of the relation of thought to its object appears to Kant and is stated by him as that of the possibility of experience.

The object, however, cannot be constructed in time alone as is undertaken in the discussion of quantity, but the empty and inert time elements have to be filled with the experientially substantial, and this element comes from the spatial character of experience. Space and time thus united give the dependableness of objects in experience, or as we usually call it, the necessity of causation. When this unitary view of space-time-causation is reached, the question of construction disappears, since its meaninglessness has been demonstrated. Out of

this causal conception, when we are thinking of the volume of experience, there grows a conception of the manifoldness of experience which is not hopelessly dissipating, but which serves on the contrary to justify our unifold conception. The realization of the object as a point from which issue directions of purpose whose number is limited only by possible experience, gives us the notion of the object as the core of an individuality, and through this, the conception of experience as an organism whose law is social. Here the logic of practice meets its end in the full definition of the particularly real as of a piece with the whole of our ideals.

And herein lies the significance of Kant's guiding idea of possible experience. When taken as the sum of all the directions which my purpose may pursue in its progress from my present as a hypothetical object, it supplies me with a "rule according to which I may look in experience for a fourth term, or a characteristic mark by which I may find it."[1] The object is not given as a construction in the form of abstract conditions. It appears as a proof or justification of connections which have been found necessary to be made in order that a purpose may be worked out. No addition is made to experience by introducing an externally new element, hence construction is not *of* experience, but *within* it. Nor can the act of construction be regarded as a new fact of "reality" since it is presupposed already in the concept of possible experience. There can be no experience at all if there are not activities resulting in the amplification of objects, so this activity is included in the fundamental assumption. It is therefore through the "characteristic marks" of objects already determined in experience that our principles find a condition of their use. Hence their use is regulative with respect to the object to be determined, since they operate according to rules contained in the characteristics of objects already known, and constitutive with reference to the objects from whose characters the rules are obtained, since these objects are re-formed upon the basis of their reciprocal relations. The distinction of constitutive and regulative principles therefore breaks down, since the two kinds of principle represent only different directions of the same process. They are the same process with respect to the objects involved, for so far as the principles are concerned, objects are all of a kind. They are permanent points or loci established in order to determine the direction of a purpose; and their objectivity consists in their significance for knowledge. And it makes no difference whether knowledge is regarded as the goal of thought

[1] A., p. 180; B., p. 222.

in a speculative sense, or as the basis of rules of action; the objects are the same in any case.

It has been shown that the distinction between the constitutive and the regulative principles is one of a series of sunderings which extends throughout Kant's system. The distinction of sense from understanding gives two worlds, the distinction within sense between time and space cuts off the subjective processes from the substantially permanent, thus leaving the subjective at loose ends with the universe; the distinction of constitutive and regulative principles introduces the void within the society of objects, defining the one part as abstractions, and the other as atomistic particulars. If on the contrary we begin with the principles, recognizing that there is no difference of their objects, we have the conditions of the conception of an unbroken world; and with this conception we have the thought process incorporated within the whole, since there is no distinction of "inner" and "outer."